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2. CONTRACT NO.		AWARD/EFFEC		ORDER NUI	MBER		5. SOLICITAT	ION NUMBER		6. SOLICITA	TION ISSUE	DATE
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28. CONTRACTOR	IS REQUIRED TO SIGN	N THIS DOC	UMENT AND RE	ETURN	<u>1</u> COP	IES 29.	AWARD OF	CONTRACT: REF	FERENCE			
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19. ITEM NO.		20. SCHEDULE OF SUPPLIES/ SERVICES					21. QUANTIT	TY	22. UNIT	23. UNIT P	RICE	24. AMOUNT
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			CORRECT AND PROPER ERTIFYING OFFICER	FOR PAYMENT 41c. DATE	42a. RE	CEIVED BY	(Print)					
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## Section SF 1449 - CONTINUATION SHEET

ITEM NO 0001	SUPPLIES/SERVICES	QUANTITY	UNIT Lot	UNIT PRICE	AMOUNT	
	Overhaul U.S. Navy LM25 FFP					
	Commercial Depot Level C Generator Assemblies an with the Statement of Wor FOB: Destination	d concurrent comp				
				NET AMT		
ITEM NO 0001AA	SUPPLIES/SERVICES	QUANTITY 1	UNIT Each	UNIT PRICE	AMOUNT	
	Overhaul FFP					
	Commercial Depot Level Commercial Depot Depot Depot Level Commercial Depot	d concurrent comp				
				NET AMT		

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UNIT PRICE ITEM NO SUPPLIES/SERVICES QUANTITY **UNIT AMOUNT** 0001AB Lot Technical Data Technical Data in accordance with DD Form 1423, Seq. Nos. A001-A004 FOB: Destination **NET AMT** Not Separately Priced ITEM NO SUPPLIES/SERVICES QUANTITY UNIT UNIT PRICE **AMOUNT** 0002 Lot Overhaul U.S. Navy LM2500 GGA -096 **FFP** Commercial Depot Level Overhaul of one U.S. Navy LM2500 Twin Shank (TST) Gas Generator Assemblies and concurrent components and accessories in accordance with the Statement of Work. FOB: Destination NET AMT UNIT PRICE **AMOUNT** ITEM NO SUPPLIES/SERVICES **QUANTITY** UNIT 0002AA 1 Each Overhaul FFP Commercial Depot Level Overhaul of one U.S. Navy LM2500 Twin Shank (TST) Gas Generator Assemblies and concurrent components and accessories in accordance with the Statement of Work. FOB: Destination **NET AMT** 

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QUANTITY UNIT PRICE ITEM NO SUPPLIES/SERVICES **UNIT AMOUNT** 0002AB Lot Technical Data FFP Technical Data in accordance with DD Form 1423, Seq. Nos. A001-A004 FOB: Destination **NET AMT** Not Separately Priced ITEM NO SUPPLIES/SERVICES UNIT UNIT PRICE **AMOUNT** QUANTITY 0003 Lot Overhaul U.S. Navy LM2500 GGA -271 FFP Commercial Depot Level Overhaul of one U.S. Navy LM2500 Twin Shank (TST) Gas Generator Assemblies and concurrent components and accessories in accordance with the Statement of Work. FOB: Destination

NET AMT

Page 6 of 41

ITEM NO SUPPLIES/SERVICES **QUANTITY UNIT** UNIT PRICE **AMOUNT** 0003AA 1 Each Overhaul Commercial Depot Level Overhaul of one U.S. Navy LM2500 Twin Shank (TST) Gas Generator Assemblies and concurrent components and accessories in accordance with the Statement of Work. FOB: Destination **NET AMT** ITEM NO SUPPLIES/SERVICES **QUANTITY** UNIT UNIT PRICE **AMOUNT** 0003AB Lot Technical Data **FFP** Technical Data in accordance with DD Form 1423, Seq. Nos. A001-A004 FOB: Destination **NET AMT** Not Separately Priced UNIT PRICE ITEM NO SUPPLIES/SERVICES **QUANTITY** UNIT **AMOUNT** 0004 Lot Overhaul U.S. Navy LM2500 GGA -811 Commercial Depot Level Overhaul of one U.S. Navy LM2500 Twin Shank (TST) Gas Generator Assemblies and concurrent components and accessories in accordance with the Statement of Work. FOB: Destination **NET AMT** 

ITEM NO SUPPLIES/SERVICES QUANTITY UNIT UNIT PRICE **AMOUNT** 0004AA Each 1 Overhaul **FFP** Commercial Depot Level Overhaul of one U.S. Navy LM2500 Twin Shank (TST) Gas Generator Assemblies and concurrent components and accessories in accordance with the Statement of Work. FOB: Destination **NET AMT** ITEM NO SUPPLIES/SERVICES QUANTITY UNIT UNIT PRICE **AMOUNT** 0004AB Lot Technical Data **FFP** Technical Data in accordance with DD Form 1423, Seq. Nos. A001-A004 FOB: Destination NET AMT Not Separately Priced

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ITEM NO SUPPLIES/SERVICES QUANTITY **UNIT** UNIT PRICE **AMOUNT** 0005 Lot Overhaul U.S. Navy LM2500 GGA -820 Commercial Depot Level Overhaul of one U.S. Navy LM2500 Twin Shank (TST) Gas Generator Assemblies and concurrent components and accessories in accordance with the Statement of Work. FOB: Destination **NET AMT** ITEM NO SUPPLIES/SERVICES **QUANTITY** UNIT UNIT PRICE **AMOUNT** 0005AA 1 Each Overhaul **FFP** Commercial Depot Level Overhaul of one U.S. Navy LM2500 Twin Shank (TST) Gas Generator Assemblies and concurrent components and accessories in accordance with the Statement of Work. FOB: Destination **NET AMT** ITEM NO SUPPLIES/SERVICES **QUANTITY UNIT UNIT PRICE AMOUNT** 0005AB Lot Technical Data FFP Technical Data in accordance with DD Form 1423, Seq. Nos. A001-A004 FOB: Destination **NET AMT** Not Separately Priced

## CLAUSES INCORPORATED BY REFERENCE

52.203-12	Limitation On Payments To Influence Certain Federal	JUN 2003
	Transactions	
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for	JAN 2005
	Debarment	
52.212-1	Instructions to Offerors Commercial Items	JAN 2005
52.212-3	Offeror Representations and CertificationCommercial Items	MAR 2005
52.212-4	Contract Terms and ConditionsCommercial Items	OCT 2003
52.214-34	Submission Of Offers In The English Language	APR 1991
52.214-35	Submission Of Offers In U.S. Currency	APR 1991
52.222-20	Walsh-Healey Public Contracts Act	DEC 1996
52.233-3	Protest After Award	AUG 1996
52.242-13	Bankruptcy	JUL 1995
52.245-2	Government Property (Fixed Price Contracts)	MAY 2004
52.246-2	Inspection Of Supplies Fixed Price	AUG 1996
52.246-16	Responsibility For Supplies	APR 1984
52.247-34	F.O.B. Destination	NOV 1991
52.247-55	F.O.B. Point For Delivery Of Government-Furnished Property	JUN 2003
52.252-2	Clauses Incorporated By Reference	FEB 1998
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.209-7001	Disclosure of Ownership or Control by the Government of a	SEP 2004
	Terrorist Country	
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By	MAR 1998
	The Government of a Terrorist Country	
252.217-7028	Over And Above Work	DEC 1991
252.225-7031	Secondary Arab Boycott Of Israel	JUN 2005
252.242-7000	Postaward Conference	DEC 1991
252.243-7001	Pricing Of Contract Modifications	DEC 1991

# CLAUSES INCORPORATED BY FULL TEXT

# 52.211-8 TIME OF DELIVERY (JUN 1997)

(a) The Government requires delivery to be made according to the following schedule:

# REQUIRED DELIVERY SCHEDULE

Items No.	Quantity	Within Days After Contract Award
0001AA	1	153 Days*
0001AB	1 Lot	IAW DD Forms 1423
0002AA	1	167 Days*
0002AB	1 Lot	IAW DD Forms 1423
0003AA	1	181 Days*
0003AB	1 Lot	IAW DD Forms 1423
0004AA	1	195 Days*

0004AB	1 Lot	IAW DD Forms 1423
0005AA	1	209 Days*
0005AB	1 Lot	IAW DD Forms 1423

\* All 5 U.S. Navy LM2500 Gas Generators will be shipped to the contractor's facility within two weeks after award. Line Item 0001, the first gas generator shall be inducted into the repair cycle within two weeks of receipt at the contractor's facility. Following induction into the repair cycle of the first gas generator, each gas generator thereafter shall be inducted into the repair cycle every two weeks. See Section C.3.9 of the SOW.

The Government will evaluate equally, as regards time of delivery, offers that propose delivery of each quantity within the applicable delivery period specified above. Offers that propose delivery that will not clearly fall within the applicable required delivery period specified above, will be considered nonresponsive and rejected. The Government reserves the right to award under either the required delivery schedule or the proposed delivery schedule, when an offeror offers an earlier delivery schedule than required above. If the offeror proposes no other delivery schedule, the required delivery schedule above will apply.

OFFEROR'S PROPOSED DELIVERY SCHEDULE			
Within Days			
After Date			
Item No. Quantity of Contract			

(b) Attention is directed to the Contract Award provision of the solicitation that provides that a written award or acceptance of offer mailed, or otherwise furnished to the successful offeror, results in a binding contract. The Government will mail or otherwise furnish to the offeror an award or notice of award not later than the day award is dated. Therefore, the offeror should compute the time available for performance beginning with the actual date of award, rather than the date the written notice of award is received from the Contracting Officer through the ordinary mails. However, the Government will evaluate an offer that proposes delivery based on the Contractor's date of receipt of the contract or notice of award by adding (1) five calendar days for delivery of the award through the ordinary mails, or (2) one working day if the solicitation states that the contract or notice of award will be transmitted electronically. (The term "working day" excludes weekends and U.S. Federal holidays.) If, as so computed, the offered delivery date is later than the required delivery date, the offer will be considered nonresponsive and rejected.

(End of clause)

Any contract awarded as a result of this solicitation will be DX rated order; X DO rated order certified for national defense use under the Defense Priorities and Allocations System (DPAS) (15 CFR 700), and the Contractor will be required to follow all of the requirements of this regulation. [Contracting Officer check appropriate box.]
(End of provision)
52.212-5 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERSCOMMERCIAL ITEMS (JUL 2005)
(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clauses, which are incorporated in this contract by reference, to implement provisions of law or Executive orders applicable to acquisitions of commercial items:
(1) 52.233-3, Protest After Award (AUG 1996) (31 U.S.C. 3553).
(2) 52.233-4, Applicable Law for Breach of Contract Claim (OCT 2004) (Pub. L. 108-77, 108-78).
(b) The Contractor shall comply with the FAR clauses in this paragraph (b) that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items: (Contracting Officer check as appropriate.)
_X_(1) 52.203-6, Restrictions on Subcontractor Sales to the Government (JUL 1995), with Alternate I (OCT 1995) (41 U.S.C. 253g and 10 U.S.C. 2402).
(2) 52.219-3, Notice of HUBZone Small Business Set-Aside (Jan 1999) (U.S.C. 657a).
_X (3) 52.219-4, Notice of Price Evaluation Preference for HUBZone Small Business Concerns (JUL 2005) (if the offeror elects to waive the preference, it shall so indicate in its offer) (U.S.C. 657a).
(4) (i) 52.219-5, Very Small Business Set-Aside (JUNE 2003) (Pub. L. 103-403, section 304, Small Business Reauthorization and Amendments Act of 1994).
(ii) Alternate I (MAR 1999) to 52.219-5.
(iii) Alternate II to (JUNE 2003) 52.219-5.
(5)(i) 52.219-6, Notice of Total Small Business Set-Aside (JUNE 2003) (15 U.S.C. 644).
(ii) Alternate I (OCT 1995) of 52.219-6.
(iii) Alternate II (MAR 2004) of 52.219-6.
(6)(i) 52.219-7, Notice of Partial Small Business Set-Aside (JUNE 2003) (15 U.S.C. 644).
(ii) Alternate I (OCT 1995) of 52.219-7.
(iii) Alternate II (MAR 2004) of 52.219-7.
_X_ (7) 52.219-8, Utilization of Small Business Concerns (MAY 2004) (15 U.S.C. 637 (d)(2) and (3)).
(8)(i) 52.219-9, Small Business Subcontracting Plan (JUL 2005) (15 U.S.C. 637(d)(4)).

(ii) Alternate I (OCT 2001) of 52.219-9
_X_(iii) Alternate II (OCT 2001) of 52.219-9.
(9) 52.219-14, Limitations on Subcontracting (DEC 1996) (15 U.S.C. 637(a)(14)).
(10)(i) 52.219-23, Notice of Price Evaluation Adjustment for Small Disadvantaged Business Concerns (JUL 2005) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323) (if the offeror elects to waive the adjustment, it shall so indicate in its offer).
(ii) Alternate I (JUNE 2003) of 52.219-23.
(11) 52.219-25, Small Disadvantaged Business Participation ProgramDisadvantaged Status and Reporting (OC 1999) (Pub. L. 103-355, section 7102, and 10 U.S.C. 2323).
(12) 52.219-26, Small Disadvantaged Business Participation ProgramIncentive Subcontracting (OCT 2000) (Pub L. 103-355, section 7102, and 10 U.S.C. 2323).
(13) 52.219-27, Notice of Total Service-Disabled Veteran-Owned Small Business Set-Aside (May 2004).
_X (14) 52.222-3, Convict Labor (JUNE 2003) (E.O. 11755).
(15) 52.222-19, Child LaborCooperation with Authorities and Remedies (Jun 2004) (E.O. 13126).
_X_(16) 52.222-21, Prohibition of Segregated Facilities (FEB 1999).
_X (17) 52.222-26, Equal Opportunity (APR 2002) (E.O. 11246).
_X_ (18) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligibl Veterans (DEC 2001) (38 U.S.C. 4212).
_X (19) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793).
_X (20) 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212).
(21) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (DEC 2004) (E.O. 13201).
(22)(i) 52.223-9, Estimate of Percentage of Recovered Material Content for EPA-Designated Products (AUG 2000) (42 U.S.C. 6962(c)(3)(A)(ii)).
(ii) Alternate I (AUG 2000) of 52.223-9 (42 U.S.C. 6962(i)(2)(C)).
(23) 52.225-1, Buy American ActSupplies (JUNE 2003) (41 U.S.C. 10a-10d).
(24)(i) 52.225-3, Buy American ActFree Trade AgreementsIsraeli Trade Act (Jan 2005) (41 U.S.C. 10a-10d, 19 U.S.C. 3301 note, 19 U.S.C. 2112 note, Pub. L. 108-77, 108-78, 108-286).
(ii) Alternate I (JAN 2004) of 52.225-3.
(iii) Alternate II (JAN 2004) of 52.225-3.

(25) 52.225-5, Trade Agreements (Jan 2005) (19 U.S.C. 2501, et seq., 19 U.S.C. 3301 note).
(26) 52.225-13, Restrictions on Certain Foreign Purchases (MAR 2005) (E.o.s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of Treasury).
(27) 52.225-15, Sanctioned European Union Country End Products (FEB 2000) (E.O. 12849).
(28) 52.225-16, Sanctioned European Union Country Services (FEB 2000) (E.O. 12849).
(29) 52.232-29, Terms for Financing of Purchases of Commercial Items (FEB 2002) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).
(30) 52.232-30, Installment Payments for Commercial Items (OCT 1995) (41 U.S.C. 255(f), 10 U.S.C. 2307(f)).
_X_ (31) 52.232-33, Payment by Electronic Funds TransferCentral Contractor Registration (OCT 2003) (31 U.S.C. 3332).
(32) 52.232-34, Payment by Electronic Funds TransferOther than Central Contractor Registration (MAY 1999) (31 U.S.C. 3332).
(33) 52.232-36, Payment by Third Party (MAY 1999) (31 U.S.C. 3332).
(34) 52.239-1, Privacy or Security Safeguards (AUG 1996) (5 U.S.C. 552a).
_X_ (35)(i) 52.247-64, Preference for Privately Owned U.SFlag Commercial Vessels (APR 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631).
(ii) Alternate I (APR 2003) of 52.247-64.
(c) The Contractor shall comply with the FAR clauses in this paragraph (c), applicable to commercial services, that the Contracting Officer has indicated as being incorporated in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items: [Contracting Officer check as appropriate.]
(1) 52.222-41, Service Contract Act of 1965, as Amended (JUL 2005) (41 U.S.C. 351, et seq.) (2) 52.222-42, Statement of Equivalent Rates for Federal Hires (MAY 1989) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).
(3) 52.222-43, Fair Labor Standards Act and Service Contract ActPrice Adjustment (Multiple Year and Option Contracts) (MAY 1989) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).
(4) 52.222-44, Fair Labor Standards Act and Service Contract ActPrice Adjustment (February 2002) (29 U.S.C. 206 and 41 U.S.C. 351, et seq.).
(5) 52.222-47, SCA Minimum Wages and Fringe Benefits Applicable to Successor Contract Pursuant to Predecessor Contractor Collective Bargaining Agreements (CBA) (May 1989) (41 U.S.C. 351, et seq.).

(d) Comptroller General Examination of Record. The Contractor shall comply with the provisions of this paragraph (d) if this contract was awarded using other than sealed bid, is in excess of the simplified acquisition threshold, and does

not contain the clause at 52.215-2, Audit and Records--Negotiation.

- (1) The Comptroller General of the United States, or an authorized representative of the Comptroller General, shall have access to and right to examine any of the Contractor's directly pertinent records involving transactions related to this contract.
- (2) The Contractor shall make available at its offices at all reasonable times the records, materials, and other evidence for examination, audit, or reproduction, until 3 years after final payment under this contract or for any shorter period specified in FAR Subpart 4.7, Contractor Records Retention, of the other clauses of this contract. If this contract is completely or partially terminated, the records relating to the work terminated shall be made available for 3 years after any resulting final termination settlement. Records relating to appeals under the disputes clause or to litigation or the settlement of claims arising under or relating to this contract shall be made available until such appeals, litigation, or claims are finally resolved.
- (3) As used in this clause, records include books, documents, accounting procedures and practices, and other data, regardless of type and regardless of form. This does not require the Contractor to create or maintain any record that the Contractor does not maintain in the ordinary course of business or pursuant to a provision of law.
- (e) (1) Notwithstanding the requirements of the clauses in paragraphs (a), (b), (c), and (d) of this clause, the Contractor is not required to flow down any FAR clause, other than those in paragraphs (i) through (vi) of this paragraph in a subcontract for commercial items. Unless otherwise indicated below, the extent of the flow down shall be as required by the clause--
- (i) 52.219-8, Utilization of Small Business Concerns (May 2004) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds \$500,000 (\$1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.
- (ii) 52.222-26, Equal Opportunity (April 2002) (E.O. 11246).
- (iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans (December 2001) (38 U.S.C. 4212).
- (iv) 52.222-36, Affirmative Action for Workers with Disabilities (June 1998) (29 U.S.C. 793).
- (v) 52.222-39, Notification of Employee Rights Concerning Payment of Union Dues or Fees (DEC 2004) (E.O. 13201).
- (vi) 52.222-41, Service Contract Act of 1965, as Amended (Jul 2005), flow down required for all subcontracts subject to the Service Contract Act of 1965 (41 U.S.C. 351, et seq.).
- (vii) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (April 2003) (46 U.S.C. Appx 1241 and 10 U.S.C. 2631). Flow down required in accordance with paragraph (d) of FAR clause 52.247-64.
- (2) While not required, the contractor May include in its subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(End of clause)

## 52.233-2 SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served

on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from :

Mr. Robert Colot Code 3352 5001 South Broad Street, Bldg. 4 Philadelphia, PA 19112-1403 Tel: 215-897-7060

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

252.209-7001 DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (SEP 2004)

(a) "Definitions."

As used in this provision --

- (a) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.
- (2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(i)(A)), to be a country the government of which has repeatedly provided support for such acts of international terrorism. As of the date of this provision, terrorist countries subject to this provision include: Cuba, Iran, Libya, North Korea, Sudan, and Syria.
- (3) "Significant interest" means --
- (i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;
- (ii) Holding a management position in the firm, such as a director or officer;
- (iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;
- (iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or
- (v) Holding 50 percent or more of the indebtness of a firm.
- (b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclosure such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include --

- (1) Identification of each government holding a significant interest; and (2) A description of the significant interest held by each government. (End of provision) 252.212-7001 CONTRACT TERMS AND CONDITIONS REQUIRED TO IMPLEMENT STATUTES OR EXECUTIVE ORDERS APPLICABLE TO DEFENSE ACQUISITIONS OF COMMERCIAL ITEMS (SEP 2005) (a) The Contractor agrees to comply with the following Federal Acquisition Regulation (FAR) clause which, if checked, is included in this contract by reference to implement a provision of law applicable to acquisitions of commercial items or components. X 52.203-3 Gratuities (APR 1984) (10 U.S.C. 2207). (b) The Contractor agrees to comply with any clause that is checked on the following list of Defense FAR Supplement clauses which, if checked, is included in this contract by reference to implement provisions of law or Executive orders applicable to acquisitions of commercial items or components. \_\_X\_\_252.205-7000 Provision of Information to Cooperative Agreement Holders (DEC 1991) (10 U.S.C. 2416). \_X\_\_252.219-7003 Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (DoD Contracts) (APR 1996) (15 U.S.C. 637). 252.219-7004 Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (Test Program) (JUN 1997) (15 U.S.C. 637 note). \_X\_ 252.225-7001 Buy American Act and Balance of Payments Program (JUN 2005) (41 U.S.C. 10a-10d, E.O. 10582).). 252.225-7012 Preference for Certain Domestic Commodities (JUN 2004) (10 U.S.C. 2533a). \_\_X\_\_ 252.225-7014 Preference for Domestic Specialty Metals (JUN 2005) (10 U.S.C. 2533a). 252.225-7015 Restriction on Acquisition of Hand or Measuring Tools (JUN 2005) (10 U.S.C. 2533a). X 252.225-7016 Restriction on Acquisition of Ball and Roller Bearings (JUN 2005) (----- Alternate I) (APR 2003) (10 U.S.C. 2534 and Section 8099 of Public Law 104-61 and similar sections in subsequent DoD appropriations acts).
  - 252.225-7028 Exclusionary Policies and Practices of Foreign Governments (APR 2003) (22 U.S.C. 2755).

252.225-7027 Restriction on Contingent Fees for Foreign Military Sales (APR 2003) (22 U.S.C. 2779).

252.225-7021 Trade Agreements (JUN 2005) (19 U.S.C. 2501-2518 and 19 U.S.C. 3301 note).

252.225-7036 Buy American ActFree Trade AgreementsBalance of Payments Program (JUN 2005) (Alternate I) (JAN 2005) (41 U.S.C. 10a-10d and 19 U.S.C. 3301 note).
252.225-7038 Restriction on Acquisition of Air Circuit Breakers (JUN 2005) (10 U.S.C. 2534(a)(3)).
252.226-7001 Utilization of Indian Organizations, Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns (SEP 2004) (Section 8021 of Public Law 107-248 and similar sections in subsequent DoD appropriations acts).
_X 252.227-7015 Technical DataCommercial Items (NOV 1995) (10 U.S.C. 2320).
_X 252.227-7037 Validation of Restrictive Markings on Technical Data (SEP 1999) (10 U.S.C. 2321).
X 252.232-7003 Electronic Submission of Payment Requests (JAN 2004) (10 U.S.C. 2227).
252.237-7019 Training for Contractor Personnel Interacting with Detainees (SEP 2005) (Section 1092 of Pub. L 108-375).
_X 252.243-7002 Requests for Equitable Adjustment (MAR 1998) (10 U.S.C. 2410).
X_ 252.247-7023 Transportation of Supplies by Sea (MAY 2002) (Alternate I) (MAR 2000) (Alternate II) (MAR 2000) (Alternate III (May 2002).
252.247-7024 Notification of Transportation of Supplies by Sea (MAR 2000) (10 U.S.C. 2631).
(c) In addition to the clauses listed in paragraph (e) of the Contract Terms and Conditions Required to Implement Statutes or Executive OrdersCommercial Items clause of this contract (Federal Acquisition Regulation 52.212-5), the Contractor shall include the terms of the following clauses, if applicable, in subcontracts for commercial items or commercial components, awarded at any tier under this contract:
252.225-7014 Preference for Domestic Specialty Metals, Alternate I (APR 2003) (10 U.S.C. 2533a).
252.237-7019 Training for Contractor Personnel Interacting with Detainees (SEP 2005) (Section 1092 of Pub. L. 108-375).
252.247-7023 Transportation of Supplies by Sea (MAY 2002) (10 U.S.C. 2631).
252.247-7024 Notification of Transportation of Supplies by Sea (MAR 2000) (10 U.S.C. 2631)
(End of clause)

## 252.247-7022 REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

- (a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.
- (b) Representation. The Offeror represents that it:

(1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.
(2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.
(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

## CAR-IIO AUTHORIZED CHANGES ONLY BY THE CONTRACTING OFFICER (JUN 1996) (NSWCCD)

- (a) Except as specified in paragraph (b) below, no order, statement, or conduct of Government personnel who visit the Contractor's facilities or in any other manner communicates with Contractor personnel during the performance of this contract shall constitute a change under the "Changes" clause of this contract.
- (b) The Contractor shall not comply with any order, direction or request of Government personnel unless it is issued in writing and signed by the Contracting Officer, or is pursuant to specific authority otherwise included as a part of this contract.
- (c) The Contracting Officer is the only person authorized to approve changes in any of the requirements of this contract and notwithstanding provisions contained elsewhere in this contract, the said authority remains solely the Contracting Officer's. In the event the contractor effects any change at the direction of any person other than the Contracting Officer, the change will be considered to have been made without authority and no adjustment will be made in the contract price to cover any increase in charges incurred as a result thereof. The address and telephone number of the Contracting Officer is:

Robert Colot Naval Surface Warfare Center, Carderock Division Code 3352 5001 S. Broad Street Philadelphia, PA 19112-1403 215-897-7060

# CAR-II1 GOVERNMENT FURNISHED PROPERTY FOR OTHER THAN INDEFINITE DELIVERY CONTRACTS (JUN 1996) (NSWCCD)

(a) The Government will furnish the following property to the contractor for use in performance of this contract in accordance with the following schedule:

#### PROPERTY QUANTITY DATE

Certain U.S. Navy LM2500 gas turbine upgrade kits listed in Tables 1 and 2 as referenced in Section C.3.4.1 of the Statement of Work. Required kits and delivery schedules will be identified during work scope meeting with NSWCCD Code 9333 personnel (refer to Section 3.5 of statement of work).

(b) The property will be delivered at Government's expense at or near [\*\*]

- \*\* The contractor is to insert the address, city or town and state in which plant is located; and if rail transportation is specified in paragraph (a) above, the exact location of private siding or public team tract at which rail shipments will be received, as well as the name of the railroad(s).
- (c) Only the property listed above in the quantity shown will be furnished by the Government. All other property required for performance of this contract shall be furnished by the contractor.
- (d) Within thirty (30) days after Government furnished property is determined by the contractor to be lost, damaged, destroyed, no longer usable, or no longer needed for the performance of the contract, the contractor shall notify the Contracting Officer, in writing, thereof.

## CAR-I13 STANDARD COMMERCIAL WARRANTY (JAN 1992)

The contractor shall extend to the Government the full coverage of any standard commercial warranty normally offered in a similar commercial sale, provided such warranty is available at no additional cost to the Government. Acceptance of the standard commercial warranty does not waive the Government's rights under the "Inspection" clause nor does it limit the Government's rights with regard to the other terms and conditions of this contract. In the event of a conflict, the terms and conditions of the contract shall take precedence over the standard commercial warranty. The standard commercial warranty period shall begin upon final acceptance of the applicable material and/or services listed in the Schedule.

The contractor shall provide a copy of its standard commercial warranty (if applicable) with its offer. The warranty covers a period of \_\_\_\_ months. (Offeror is to insert number.)

## CAR-L02 SINGLE AWARD FOR ALL ITEMS (JUN 1996) (NSWCCD)

Due to the interrelationship of supplies and/or services to be provided hereunder, the Government reserves the right to make a single award to the offeror whose offer is considered in the best interest of the Government, price and other factors considered. Therefore, offerors proposing less than the entire effort specified herein may be determined to be unacceptable.

## C - STATEMENT OF WORK

Commercial Depot Level Overhaul of US Navy LM2500 Twin Shank (TST) Gas Generator assemblies and concurrent components and accessories.

## C.1 Scope

This specification identifies the requirements for commercial depot level overhaul of five (5) US Navy TST LM2500 gas generators, national stock number (NSN) 2S 2835-01-032-9125.

## **C.2** Applicable Documents

#### C.2.1 General

While every effort has been made to ensure the completeness of this list, document users are cautioned that they shall meet all specified requirements cited in Sections C.3 and C.4 of this specification, in addition to the specifications listed in the documents listed in Section C.2.2. Attachments (a) through (k) in Section C.9 are provided to assist contractors preparing proposals.

#### C.2.2 Government Documents

US Navy LM2500 Technical Manuals:

## Organizational Level:

S9234-AD-MMO-070/LM2500 latest revision dtd 15 September 2003 S9234-AD-MMO-080/LM2500 latest revision dtd 15 September 2003

S9234-AD-MMO-090/LM2500 latest revision dtd 15 September 2003

## Depot Level Maintenance:

S9234-AB-MMD-010/LM2500 latest revision dtd 30 June 1999

S9234-AB-MMD-020/LM2500 latest revision dtd 30 June 1999

S9234-AB-MMD-030/LM2500 latest revision dtd 30 June 1999

S9234-AB-MMD-040/LM2500 latest revision dtd 30 June 1999

S9234-AB-MMD-050/LM2500 latest revision dtd 30 June 1999

S9234-AB-MMD-060/LM2500 latest revision dtd 30 June 1999

If requested, the US Navy LM2500 technical manuals will be provided after contract award to the successful contractor. Application for copies of US Navy LM2500 technical manuals shall be addressed to Naval Surface Warfare Center (NSWC) Code 9333. The Contractor must request permission from NSWC Code 9333 to reproduce the manuals. Any US Navy manuals issued, and all copies made, and all printouts generated will remain the property of the US Navy.

#### C.2.3 Order of Precedence

In the event of a conflict between the text of this document and the references cited herein, the US Navy LM2500 technical manuals listed in Section C.2.2 of this document take precedence. These manuals are as follows: Depot Level Maintenance S9234-AB-MMD-010/LM2500 through S9234-AB-MMD-060/LM2500 latest revision and Organizational Level Maintenance S9234-AD-MMO-070/LM2500 through S9234-AD-MMO-090/LM2500 latest revision.

## **C.3 Requirements**

### C.3.1 General

The contractor shall have prior experience with the overhaul of the General Electric LM2500 TST gas generator for industrial or marine customers.

The contractor shall furnish services in accordance with any written technical instructions. No verbal instructions will be accepted to the specifications set forth herein.

The contractor shall overhaul, modify, incorporate mandatory updates, maintain standard configuration integrity, assemble, test, preserve, package, document, mark and prepare for shipment the LM2500 TST gas generators in accordance with this specification.

All overhaul work performed under this specification shall be in accordance with the current US Navy LM2500 depot level technical manuals, S9234-AB-MMD-010 through S9234-AB-MMD-060 latest revision, as applicable for the articles under overhaul. Any and all deviations from these technical manuals must be approved, in writing, by the cognizant technical representative at NSWC prior to implementation.

All overhaul work performed under this specification shall be for articles to be modified to standard configuration, overhauled and delivered Ready For Issue (RFI) to the fleet. All parts shall be cleaned in accordance with procedures outlined in US Navy LM2500 depot level technical manual S9234-AB-MMD-010/LM2500 Chapter 3 or US Navy approved equivalent standard commercial procedures. The overhauled LM2500 TST gas generators shall be free of all corrosion when delivered to the US Navy.

If, after contract award, the contractor proposes to use repair procedures (which are not specifically allowable under the current Statement of Work) to complete the engine overhaul, the contractor must request approval from NSWC Code 9333 to use any alternate repair procedures. If NSWC Code 9333 approves any alternate repair procedures, the contract price shall be negotiated downward to reflect the cost savings obtained from the alternate repair process(es).

In addition to NSN and part number (PN) markings contained herein, overhauled units shall be marked, in accordance with standard commercial practice, with the delivery order number and date of overhaul.

#### C.3.2 Tooling

The contractor shall possess all supplies and materials necessary to accomplish the overhaul of the US Navy LM2500 TST gas generator assemblies, including accessories. At the time of proposal submission, all contractors shall possess a minimum of 90% of the total number, and 95% of the total dollar value, of all required tooling and machinery necessary to perform an overhaul of an LM2500 TST gas generator. Subcontractor tooling and the amount of subcontractor tooling will be utilized to determine whether a contractor possesses the minimum of 90% of the total number, and 95% of the total dollar value, of all required tooling and machinery necessary to perform an overhaul of an LM2500 TST gas generator. The US Navy shall not provide nor be responsible for any special support equipment, tooling, or machinery used for the overhaul of US Navy LM2500 TST gas generators. A list of Special Support Equipment and tooling required to perform an overhaul of an LM2500 TST gas generator and its accessories is contained in US Navy depot level technical manual S9234-AB-MMD-010/LM2500 Chapter 2. This list outlines the minimum required equipment needed to perform an overhaul of an LM2500 TST gas generator. Contractors may propose to use LM2500 TST gas generator special support equipment, tooling, and associated machinery in excess of what is required in US Navy technical manual S9234-AB-MMD-010/LM2500 Chapter 2, that enhances the contractor's ability to perform an LM2500 overhaul.

## C.3.3 Test Cell

The contractor shall, at a minimum, have an operational test cell and overhaul facility. The contractor's gas turbine test cell facility shall, at a minimum, be in the thirty thousand (30,000) pound thrust class. The contractor shall test for both proper function and performance throughout the entire range of operation from start through the full power rating. The contractor shall be fully capable of performing the following: functional testing of the gas generator including vibration, starting, restarting, and acceleration. Expected performance guidelines are outlined in Section C.4.1. Procedures, testing points, instrumentation, and the instrumentation ranges and tolerances required to measure function and performance are specified in the US Navy LM2500 depot level technical manual S9234-AB-MMD-030/LM2500 latest revision, Section 13.2.

In the event of a failure in the testing, additional tests (penalty tests) shall be performed to ensure that the mechanical deficiency was corrected by the maintenance performed, however, the complete testing of the gas generator shall be performed in conjunction to these additional tests.

All accessories shall be tested individually in accordance with the testing procedures outlined in the most recent version of the US Navy LM2500 depot level technical manuals. Copies of the accessories test reports shall be provided to NSWC Code 9333. The contractor's ability to demonstrate the compilation of gas generator rebuild information in a gas generator overhaul report shall be evaluated in accordance with Section L of this solicitation.

The fuel used during testing of the gas generators shall either be JP-5, Jet A1, JP-8, Jet A or marine diesel oil. The gas generators shall be the standard US Navy configuration once the overhaul is completed and the gas generators are shipped back to the US Navy.

The test cell shall, at a minimum, have the instrumentation requirements to meet or exceed the associated ranges and tolerances specified in Table 13-1.2 of the US Navy depot level technical manual S9234-AB-MMD-030/LM2500 latest revision.

The contractor shall provide as part of their testing proposal documentation to state if the US Navy LM2500 gas generators will be tested with slave accessories.

#### C.3.4 Material

The contractor shall supply and only use US Navy approved parts in the overhaul of US Navy LM2500 TST gas generators. All approved parts for use in US Navy LM2500 TST gas generator are listed in the US Navy LM2500 Illustrated Parts Breakdown S9234-AD-MMO-070/LM2500 through S9234-AD-MMO-090/LM2500 latest revision. The use of aftermarket parts is not permitted.

All US Navy material shall be stored indoors in a separate secured area. The contractor shall be responsible for the security of any US Navy assets while the assets are at the contractor's facility until the time that the asset(s) is (are) delivered to a US Navy facility.

## C.3.4.1 US Navy Furnished Gas Turbine Upgrade Kits

The US Navy will provide the contractor with selected US Navy LM2500 gas turbine upgrade kits. These kits will be provided at no expense to the contractor. All available US Navy LM2500 gas turbine upgrade kits are listed in Tables 1 and 2.

The upgrade kits listed in Table 1 are required as needed based on the teardown and inspection of the engine. The upgrade kits listed in Table 2 are mandatory to be installed.

Kit Number	Description	GTC#
9012LKA117496TU	Replacement of Fuel Pump Strainer Element	12
9013LKA117701TU	HPT Stg 2 Nozzle Assy & Turbine Midframe Assy	13
9017LKA117997TU	CDP Rotating Air Seal	17
9019LKA118189TU	Compressor Rotor Assembly	19

9019LKA318191TU	Compressor Rotor Assembly Kit 2	19
9021LKA718201TU	High Pressure Turbine Rotor Kit	21
9023LKA119112TU	Installation of Compressor Rotor Assy. Stage 1 Blades with Carboloy Wear Pads	23
9024LKA119233TU	Electrical Connector Sealing Improvement	24
9026LKA222582TU	Compressor Stg 3-6 VSV Bushing Improvement	26
9028LKA120165TU	No. 5 & 6 Bearing Heat Shields & Thermal Blankets	28
9029LKA120257TU	HPT Rotor Hook Bolt	29
9031LKA120259TU	AFT Thermocouple Lead	31
9034LKA120432TU	Cooling & Vent Seal Tube Brackets	34
9036LKA120435TU	VSV IGV Stg 1 & 2 Inner Bushing Improvement	36
9045LKA121637TU	Main Fuel Pump, Plug Seating	45
9051LKA121788TU	Deletion Of C- And D- Sump Lube System Check	51
9052LKA121789TU	Redesign Of The PT5.4 Pressure Sensing System	52
9053LKA121790TU	Replacement Of A- And B- Sumps Ejector Nozzle	53
9044LKA121636TU	Major Update to MFC	54
9055LKA122651TU	Starter Upgrade New Shaft Seal	55
9056LKA123082TU	Compressor Rotor Stability Improvement	56
9057LKA123363TU	Deletion Of Pilot Pressure Relief Valve	57
9064LKA124017TU	Improved LPT Interstage Seal Bolting	64
9066LKA124869TU	MFC Control Meter Vlv. / T2 Servo Sleeve	66
9091LKA129427TU	Elimination Of Aerodynamic Instability	91

Kit Number	Description	GTB#
N/A	Inspection of First Stage Compressor Blade Carboloy Pads	22

Table 1: LM2500 Gas Turbine Upgrade Kits

GTC/GTB/AY C	Issue Date	Subject	Kits/Part Number
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GTC 75	6/13/2002	Installation of Redesigned VSV Stage 5 and 6 Vane Arms	No Kit Available
GTC 77R1	2/10/92 (Issued) 7/15/96 (Latest Revision)	Accelerometer Vibration Sensing System Mod on DD-963, DD-993, CG-47 and DDG-51 Class Ships	9077LKA228126TU
GTC 78R1	6/11/2004	Compressor Variable Stator Improvements	No Kit Available
GTC 79R2A	1/2/96 (Issued) 11/13/02 (Latest Amendment)	Addition of a Vibration Dampening Bracket and Clamp on "C" Sump Lube Supply Line (TST)	9079LKA125702TU
GTC 83R1	10/18/2001	Installation of New Lube and Scavenge Pump	9083LKA127123TU 9083LKA227124TU
GTC 84R2AB	7/27/92 (Issued) 3/23/94 (Latest Amendment)	Provide Improved Fuel Manifold That Incorporates Flexible Hoses	9084LKA127463TU
GTC 89	8/10/1994	Coast Metal 64 Hardcoat TMF For Wear Protection	N/A
GTC 91/92 PT II	6/5/1996	VSV Rerig by Installation of Modified Bell Crank	9091LKA129427TU
GTC 95	5/7/2001	Improved LM2500 PLA	9095LKA129853TU
GTC 95AA	4/6/2002	Cadmium Free PLA Motor	N/A
GTC 96R1	8/1/2003 (Issued) 12/8/2004 (Latest Revision)	LM2500 Flexible T5.4 Thermocouple Harness	GTC96K1R0GTM
GTC 101	2/17/2004	Improved Drain System for the Fuel Shut-Off Valves (Use AYC 39R2 Parts Kit)	9039LKA128217TW
GTB 24R1AA	7/15/2002 (Latest Amendment)	Inspection/Installation of TMF Anti-Rotation Pins	135042
AYC 42	5/7/2001	PLA Connector/Cable Improvement	9042LKA129850TW

Table 2: Mandatory LM2500 Gas Turbine Upgrade Kits

## C.3.5 LM2500 TST Gas Generator Minimum Work Scope

The contractor shall perform a complete teardown and inspection of the US Navy LM2500 TST gas generators including accessories. The contractor shall also visually inspect gas generator external components and visible flanges, control and accessories piping, electrical leads, clamps, brackets, nuts, bolts, etc. for damage, wear, deterioration, looseness, proper configuration, etc. All US Navy LM2500 TST gas generator components shall be inspected in accordance with inspection criteria outlined in the US Navy LM2500 depot level technical manuals. All teardown and inspection results and contractor overhaul recommendations shall be forwarded to NSWC Code 9333.

After completion of teardown and inspection the contractor shall hold a work scope meeting with NSWC Code 9333. This meeting will decide the amount of work that will be performed to return this asset to a ready for issue (RFI) status. During the work scope meeting, any unforeseen work which is over and above the minimum repair requirements of this specification will be discussed. The US Navy reserves the right to furnish replacement parts for unforeseen repairs. The US Navy also requires a proposed cost estimate for unforeseen repairs at the work scope meeting. All Over and Above repairs shall be in accordance with the procedures outlined in the US Navy LM2500 depot level technical manuals.

The US Navy LM2500 TST gas generators shall have the overhaul work identified Sections C.3.5.1 through C.3.6 of this specification performed during the overhaul of the US Navy LM2500 TST gas generators.

#### **C.3.5.1 Compressor Front Frame**

Disassemble, inspect, clean, and process as described below and per procedures outlined in the US Navy LM2500 depot level technical manuals.

- a. Inspect compressor front frame (CFF) for corrosion and missing paint. Also check mounting bushing and inner bushing for wear. Replace oil supply tube "O" Ring, PN J221P020 per Figure 9-28, Item 3 in S9234-AB-MMD-030/LM2500.
- b. Replace bearing, compressor air seal, per Figure 88 of US Navy LM2500 organizational level technical manual, original Phenalic seals PN 9654M03G03 and 9654M03G06 with Teflon seal PN L44765G01.
- c. Replace No. 3 bearing stationary oil seal, per Figure 8-16 of US Navy LM2500 organizational level technical manual, original Phenalic seals PN 9654M23P03 and 9654M23P04 with Teflon seal PN L47033G02.
- d. Remove, clean, inspect, and preserve all gas generator main bearings per paragraph 8.43 of US Navy LM2500 depot level technical manual.
- e. Pressure test sumps.

Any conditions found that exceed the technical manual service limits require repair or replacement of component in accordance with the US Navy LM2500 depot level technical manuals.

## C.3.5.2 Compressor Rotor

Disassemble, inspect, clean, and process as described below and per procedures outlined in the US Navy LM2500 depot level technical manuals.

- a. All serviceable stage 1 compressor blades shall be repaired and provided with a full 20 mils (+/- 1 mil) thickness carboloy wear pad. Braze shall encompass the pad 100%, there shall be no clearance between the pad and mid span shroud surface. The pad shall be masked during dovetail stripping to prevent damage to carboloy wear pad.
- b. Steam clean compressor, disassemble, inspect and process.
- c. Replace Stage 1 blades. Install reworked blades with new mid-span carboloy pads (Gas Turbine Change (GTC) 23R1). Map all compressor rotor balance weights in accordance with depot level technical manual.

Per US Navy LM2500 depot level technical manual:

3 - 9 spool not to exceed 10 weights.

10<sup>th</sup> stage disc not to exceed 3 weights.

11 - 13 spool not to exceed 16 weights.

14 - 16 spool not to exceed 12 weights.

 $Complete\ compressor\ rotor\ not\ to\ exceed\ 24\ total\ weights.$ 

- d. Remove all stage 2 through 16 compressor blades for inspection, processing and recoating of dovetails.
- e. Inspect for blade platform gap. If minimum gap is exceeded, install additional wide platform blades as required to reduce gap.
- f. Apply new rubcoat to compressor rotor spool stages 3-9, 11-13 and 14-16. Strip old coating IAW paragraphs 8.211 and 8.226 of US Navy LM2500 depot level technical manual.

## **C.3.5.3** Compressor Front Stator

Disassemble, inspect, clean, and process as described below and per procedures outlined in the US Navy LM2500 depot level technical manuals.

- a. Disassemble, clean and process.
- b. Inspect variable stator vane (VSV) shroud per paragraph 8.179/Table 8-63 of US Navy LM2500 depot level technical manual. If GTC 36 not incorporated previously, comply.
- c. Apply new rubcoat to compressor front stator case. Strip old Rub and Bond coating IAW paragraphs 8.155 and 8.161 of US Navy LM2500 depot level technical manual.
- d. Remove all stage 1 through 11 compressor vanes for inspection, processing and recoating of dovetails.
- e. Remove borescope plugs, inspect, and apply antiseize.

Any conditions found that exceed the technical manual service limits require repair or replacement of component in accordance with the US Navy LM2500 depot level technical manuals.

## C.3.5.4 Compressor Rear Stator

Disassemble, inspect, clean, and process per procedures outlined in the US Navy LM2500 depot level technical manual.

- a. Apply new rubcoat to compressor rear stator case. Strip old Rub and Bond coating IAW paragraphs 8.155 and 8.161 of US Navy LM2500 depot level technical manual.
- b. Remove all stage 12 through 16 compressor vanes for inspection, processing and recoating of dovetails.
- c. Remove borescope plugs, inspect, and apply antiseize.

Any conditions found that exceed the technical manual service limits require repair or replacement of component in accordance with the US Navy LM2500 depot level technical manuals.

#### **C.3.5.5 Compressor Rear Frame**

Disassemble, inspect, clean, and process per procedures outlined in the US Navy LM2500 depot level technical manual.

- a. Inspect compressor rear frame (CRF) internal hub and strut fillets for cracks.
- b. Inspect and test CRF oil tubes for cracks.
- c. Replace piston rings on 4R seal with PN 9693M18P04 (Kit No. 537L180G01) rings.

- d. Replace compressor rear case (CRC) to CRF bolts with PN 9665M50P12.
- e. Dimensional inspect No. 4B stationary oil seal 9693M49P05 and re-identify per CID 609543.
- f. Remove, clean, inspect, and preserve all gas generator main bearings per paragraph 8.43 of US Navy LM2500 depot level technical manual.
- g. Remove borescope plugs, inspect, and apply antiseize.
- h. Pressure test sumps.

#### C.3.5.6 Combustor

Disassemble, inspect, clean, and process per procedures outlined in the US Navy LM2500 depot level technical manual.

- a. Disassemble, inspect, clean, and process.
- b. Remove combustor and replace hastelloy dome with HS 188 dome PN 9101M95G24 (retain the swirlers). The contractor is responsible for providing the replacement HS 188 dome. Inspect per paragraph 8.294 of US Navy LM2500 depot level technical manual.

NOTE: If incoming gas generator already has an HS 188 dome installed, replacement is not necessary. Remove existing HS 188 dome, inspect, clean, and process.

c. All serviceable fuel nozzles require complete overhaul in accordance with US Navy LM2500 depot level technical manual. Flow and test only is not acceptable.

Any conditions found that exceed the technical manual service limits require repair or replacement of component in accordance with the US Navy LM2500 depot level technical manuals.

## C.3.5.7 High Pressure Turbine Stage 1 Nozzle

Disassemble, inspect and process per paragraphs 8.372 through 8.377 of US Navy LM2500 depot level technical manual.

- a. Rework all nozzles.
- b. All serviceable HPT Stage 1 nozzles shall be provided with Platinum Aluminide (PtAl) coating.

Any conditions found that exceed the technical manual service limits require repair or replacement of component in accordance with the US Navy LM2500 depot level technical manuals.

## C.3.5.8 High Pressure Turbine Stage 2 Nozzle

Disassemble, inspect and process per paragraphs 8.372 through 8.377 of US Navy LM2500 depot level technical manual.

- a. Rework all nozzles.
- b. Rework all shrouds.
- c. Comply with GTC 13.
- d. All serviceable HPT Stage 2 nozzles shall be provided with PtAl coating.

## **C.3.5.9** High Pressure Turbine Rotor

Disassemble, inspect and process per paragraphs 8.372 through 8.377 of US Navy LM2500 depot level technical manual.

- a. Rework all blades.
- b. All serviceable Stage 1 and Stage 2 HPT blades shall be provided with PtAl coating. Complete blade repair required, mini tip repairs are not acceptable.
- c. Comply with GTC 29.
- d. Inspect the following:
  - 1. Forward rotating air seals.
  - 2. Coupling nut, including silver plating.
  - 3. Forward shaft.
  - 4. Stage 1 disk.
  - 5. Stage 1 blade retainer.
  - 6. Thermal shield.
  - 7. Stage 2 disk.
  - 8. Stage 2 blade retainer.
  - 9. Rear shaft.
- e. Remove aft shaft, pressure tube and inspect.
- f. Remove borescope plugs inspect in accordance with US Navy LM2500 depot level technical manual, including silver replating/apply antiseize.

Any conditions found that exceed the technical manual service limits require repair or replacement of component in accordance with the US Navy LM2500 depot level technical manuals.

## C.3.5.10 Turbine Mid Frame

Disassemble, inspect, clean, and process per procedures outlined in the US Navy LM2500 depot level technical manual.

- a. Inspect turbine mid frame (TMF) liner for cracks and distortion.
- b. Comply with GTC 13.
- c. Replace No. 5 and 6 bearing heat shields per GTC 28.
- d. Install PN 9084M64 oil inlet tube on all TMF(s) processed. (Remove and replace PN 9677M81 old style tubes.)
- e. Remove, clean, inspect, and preserve all gas generator main bearings per paragraph 8.43 of US Navy LM2500 depot level technical manual.
- f. Remove borescope plugs, inspect, and apply antiseize.
- g. Pressure test sumps.

Any conditions found that exceed the technical manual service limits require repair or replacement of component in accordance with the US Navy LM2500 depot level technical manuals.

## C.3.5.11 Inlet Gearbox

Disassemble, inspect, clean, and process per procedures outlined in the US Navy LM2500 depot level technical manual.

- a. Disassemble to allow for inlet gearbox bearing processing.
- Install inlet gearbox (IGB) nut, PN L16569P04 per Figure 51-41 of US Navy LM2500 organizational level technical manual.

## C.3.5.12 Transfer/Accessory Gearbox

Disassemble, inspect, clean, and process per procedures outlined in the US Navy LM2500 depot level technical manual.

- a. Disassemble to allow for accessory gearbox bearing processing.
- b. Inspect accessory gearbox mounting link and rod ends for spherical ball bearings wear, fretting, and looseness.
- c. Replace air/oil separator, per Figure 53-2 of US Navy LM2500 organizational level technical manual, original Phenalic seals PN 9634M44P02 and 9634M44P04 with Teflon seals PN 9634M44P06 or 9634M44P07.

Any conditions found that exceed the technical manual service limits require repair or replacement of component in accordance with the US Navy LM2500 depot level technical manuals.

#### C.3.5.13 Accessories

Disassemble, inspect, clean, and process per procedures outlined in the US Navy LM2500 depot level technical manual.

- a. Inspect and test speed sensor per paragraph 47.11 of US Navy LM2500 depot level technical manual.
- b. Remove and inspect starter for foreign object damage. Comply with gas turbine changes to meet requirements of Section C.3.6.
- c. Remove main fuel control and bench test per paragraph 24.2.77 of US Navy LM2500 depot level technical manual. Comply with gas turbine changes to meet requirements of Section C.3.6.
- d. Remove fuel pump, inspect and clean (GTC 12) strainer element, modify for eductor plug unseating per GTC 45. Test per paragraph 26.14 of US Navy LM2500 depot level technical manual. Comply with gas turbine changes to meet requirements of Section C.3.6.
- e. All serviceable fuel nozzles require complete overhaul in accordance with US Navy LM2500 depot level technical manual.
- f. Inspect, clean, test, or replace main fuel filter element per Chapter 27 of US Navy LM2500 depot level technical manual.
- g. Remove and bench test fuel shut-off valves per paragraph 29.13 of US Navy LM2500 depot level technical manual. Comply with Ancillary Equipment Change (AYC) 39.
- h. Remove and bench test compressor inlet temperature (CIT) sensor per paragraph 25.13 of US Navy LM2500 depot level technical manual. Comply with gas turbine changes to meet requirements of Section C.3.6.
- i. Remove, inspect and test all electrical cables for wear of braid and interface connectors for integrity, cleanliness and seals (GTC 24).
- j. Inspect and test VSV feedback cable per paragraph 47.6 of US Navy LM2500 depot level technical manual.
- k. Inspect and repair as required and test power level angle (PLA) actuator. Comply with GTC 95AA.
- 1. If accelerometer is determined not ready for issue, replace with new.
- m. Inspect PT 5.4 probes, pigtails, and manifold per paragraph 47.7 of US Navy LM2500 depot level technical manual.
- n. Inspect fuel manifold for end connector cracks. Comply with GTC 84R2 if not incorporated.

- o. Inspect and test overspeed transducer leads per paragraph 47.18 of US Navy LM2500 depot level technical manual
- p. Lube and scavenge pump perform bench test. Repair/replace if limits are not met per Chapter 33 of US Navy LM2500 depot level technical manual. Comply with GTC 83R1.
- q. Pressurizing valve perform bench test. Repair/replace if limits are not met per paragraph 28.13 of US Navy LM2500 depot level technical manual.
- r. Fuel filter assembly perform bench test. Repair/replace if limits are not met per paragraph 27.12 of US Navy LM2500 depot level technical manual.
- s. VSV actuator perform bench test. Repair/replace if limits are not met per paragraph 32.13 of US Navy LM2500 depot level technical manual. Comply with GTC 78R1.
- t. Inspect and test resistance temperature detectors (RTD) per paragraph 47.10 of US Navy LM2500 depot level technical manual.
- u. Inspect and test spark igniter per paragraph 47-16 of US Navy LM2500 depot level technical manual and per General Electric Service Letter No. 2500-04-01, dated 29 September 2004.
- v. Inspect and test ignition exciter per Chapter 39 of US Navy LM2500 depot level technical manual.

## C.3.6 LM2500 TST Gas Generator Configuration

All US Navy LM2500 TST gas generator accessories shall be of the following configuration after overhaul:

a.	Main Fuel Control (MFC)	L16716P25
b.	Fuel Pump	9039M45P09
c.	Lube and Scavenge Pump	L24407P07
d.	PLA Actuator	L22263P07A
e.	CIT Sensor	L21225P02
f.	Starter	L34085P08

PLA actuators that are of a higher configuration (e.g. a L22263P09 PLA is higher configuration than that of a L22263P07A PLA) shall not be reconfigured to the configuration listed above. The higher configuration accessories shall be repaired in their current configuration. L22263P07A represents the minimum repair requirements. This applies to the PLA only.

All US Navy LM2500 TST gas generators shall have the mandatory Gas Turbine Technical Directives (TDs), GTBs/GTCs/AYCs, listed in Table 2 verified and incorporated as required during the overhaul. NSWC Code 9333 will provide the upgrade kits to the contractor to incorporate these Technical Directives at no cost to the contractor, for GTCs listed in Table 2 with the exception being GTCs 75, 78R1 and 89 for which the contractor will have to provide. To view/download individual Technical Directives, the contractor may visit the US Navy Marine Gas Turbine website at https://mgt.navsses.navy.mil.

In conjunction with GTC 89, GTB 24R1 shall also be incorporated. GTB 24R1 installs anti-rotation pins in the TMF to prevent a clocked liner from contacting and severing the gas generator thermocouples. The US Navy will supply the anti-rotation pins to the contractor at no cost.

US Navy gas turbine kits shall only be requested if the kit is required for the overhaul. These kits shall be used for upgrading of the gas generator and accessories only. If the gas generator being overhauled previously had one of the GTCs listed above incorporated, the kit for that GTC shall not be requested, except when kit incorporation is necessary to maintain standard configuration. Determination of what kits are needed is the responsibility of the contractor. The tables/information that outline which kits are needed for the corresponding part numbers/serial numbers are found in the GTC along with the detailed installation instructions. Information regarding which GTCs are incorporated on the gas generator that arrives at the contractor's facility is contained in the gas generator's

logbook. Logbook service records shall be examined to determine the current Technical Directive Configuration, inspections, standard and mandatory configuration upgrades required.

All material required to complete the overhaul shall be identified in the Disassembly and Inspection Report (DIR), prior to the work scope meeting. The US Navy reserves the right to furnish replacement parts for unforeseen repairs. All remaining material required to complete the overhaul shall be procured by the contractor. The contractor shall only use parts identified in the LM2500 Illustrated Parts Breakdown S9234-AD-MMO-070 through S9234-AD-MMO-090/LM2500.

The contractor shall verify and incorporate when applicable the approved US Navy LM2500 TDs listed in Table 2 of this document.

#### **C.3.7 Technical Approval**

Deviations from the latest revisions of US Navy LM2500 depot level technical manuals, listed in Section C.2.2 of this document, such as waivers, engineering change proposals, material substitutions, engineering directives or alternate overhaul methods, not specifically stated in these manuals shall only be permitted after processing deviations and obtaining written approval from NSWC Code 9333. Documentation for requesting such deviations to the US Navy technical manuals shall be an email sent to NSWC Code 9333 followed by a letter on company letterhead.

All processes, procedures, inspection criteria, and components used in the overhaul of US Navy LM2500 TST gas generator shall be approved by NSWC Code 9333 for use or implementation in the gas generator overhaul. Approved procedures and components are listed in the US Navy LM2500 technical manuals, outlined in Section C.2.2 of this document. The US Navy upon written request will evaluate additional procedures and components not listed in the aforementioned technical manuals on a case-by-case basis. Commercially equivalent procedures will be considered but are not approved for use without written authorization from NSWC Code 9333.

# C.3.8 Receipt Reporting, Test, Disassemble, Inspect, Upgrade, DIR and Analyze the LM2500 TST Gas Generator NSN 2S 2835-01-032-9125

The contractor shall store the LM2500 TST gas generators inside its nitrogen pressurized shipping containers from the time of receipt of the assets up until the induction of the gas generators for overhaul. After the gas generator overhaul and operational testing is successfully completed, the gas generator and service records shall be stored in the shipping container. At all times, before and after overhaul, when the gas generators are stored in their shipping containers, the containers shall be pressurized with nitrogen to preserve the components. Detailed instructions for the care of the US Navy gas turbine shipping container is outlined in the US Navy technical manuals S9234-AA-MMA-000/LM2500 Section 2-169 latest revision, and S9234-AB-MMD-030/LM2500 Chapter 14 latest revision.

If the shipping containers are unable to hold the nitrogen charge when the containers are received, or at any other time when the gas generators are stored in the shipping containers, the contractor shall notify NSWC Code 9333 within two (2) working days in accordance with Contract Data Requirement List (CDRL) Data Item No. A001 of this contract.

Within five (5) working days after receipt of the US Navy LM2500 TST gas generators, the contractor shall contact NSWC Code 9333, to provide the serial number of the gas generators, and physical condition of the shipping containers in accordance with CDRL Data Item No. A001 of this contract.

Within five (5) working days of container openings and receipt inspection of the US Navy LM2500 TST gas generators, the repair activity shall contact NSWC Code 9333 to report all parts/components that are missing, damaged or cannibalized in accordance with CDRL Data Item No. A001 of this contract.

The contractor shall disassemble, as necessary, to incorporate mandatory TDs, comply with LM2500 TST gas generator Minimum Work Scope requirements as defined in Sections C.3.5 through C.3.6 and maintain integrity of standard configuration.

Inspection is necessary to determine the extent of failures requiring repairs, conduct metallurgical evaluations and provide a DIR. The analysis shall result in a DIR on each US Navy LM2500 TST gas generator and concurrent parts, assemblies, or selected component items that are inducted for processing.

All inspection criterion, procedures, and modifications shall be in accordance with Sections C.3.4.1, C.3.5 through C.3.6 and subsequently supplemented utilizing the US Navy LM2500 depot level technical manuals outlined in Section C.2.2, and replacement parts in accordance with the LM2500 Illustrated Parts Breakdown S9234-AD-MMO-070 through S9234-AD-MMO-090/LM2500. Only parts listed in the Illustrated Parts Breakdown shall be used in the overhaul of US Navy LM2500 TST gas generators.

In those cases where specifications permit and it is economically feasible to do so, component parts of the gas generators shall be overhauled. "Economically Repairable End Items" are defined as end items which can be restored to a serviceable condition in accordance with the applicable requirements, and when costs of the overhaul will not exceed 75% of the US Navy stock list price specified in the contract. Whenever the contractor estimates that the total cost of overhaul of any end item received for overhaul and/or repair will exceed this limit, the contractor shall, in writing, promptly notify NSWC Code 9333 to that effect and shall not perform any further services on any such items except at the direction of NSWC Code 9333. Upon receipt by the contractor of a written determination by NSWC Code 9333 that a particular item cannot be overhauled, the contractor, at no additional cost to the US Navy, shall return the component to NSWC.

## **C.3.9 Turn Around Time and Induction Schedule**

Each US Navy LM2500 TST gas generator shall be overhauled, tested, documented and prepared for shipment within 125 days after induction into repair cycle. Following induction into the repair cycle of the first gas generator, each gas generator thereafter shall be inducted into the repair cycle every two (2) weeks. The repair cycle starts when the US Navy gas generator arrives at the contractor's facility, and is completed once the US Navy borescope inspection is performed after the acceptance test run.

The contractor shall report work stoppage due to US Navy related delays to NSWC Code 9333 and to NSWC Code 3352, within three (3) working days.

## **C.3.10** Engineering Change Proposals

The contractor shall incorporate approved class I Engineering Change Proposals (ECP) into items overhauled under orders under this contract if: the approved ECP states that the change is to be incorporated into the gas generator upon return to the depot and the part(s) necessary for incorporation are available; or the approved ECP replaces a part or parts with another part or parts without retrofit recommendation, and the older part(s) is (are) no longer available as government furnished equipment or contractor furnished equipment. An ECP is considered approved if block 24A of the appropriate DD Form 1692 is checked and block 24C has been signed.

A list of currently approved US Navy LM2500 ECPs is found in Table 3.

Approved ECPs/TDs promulgate modifications to improve equipment reliability and/or maintainability. The approved ECPs/TDs generate configuration changes which may add or delete parts or components. An Engineering Change Proposal – Allowance Parts List (ECP-APL) Number is provided to reflect the revised supporting parts. The TD and ECP-APL Numbers are used to track the Scheduling and accomplishments of the changes as applicable to various equipment, systems or ship. The ECP-APL Number is necessary for Configuration Status Accounting (CSA) even though the specific change may not involve a parts change; in these cases the head data for such ECP-APL will indicate that no parts are involved.

ECP Number	TD Cross Referenc e	Title
N-324	1	LM2500 Commonality Changes:10.1 # 7R/7B Lube Nozzle, 10.2 #4R Heat Shield & B Sump Insulation Blankets
N-295	-	Introduction of One Half Size Shroud Support (C-Clip)
N-272	1	LM2500 "A" Sump/Inlet Gearbox Modification for Prevention of Lube Oil Leakage
N-245	-	Rear Compressor Stator Vane Locking Key Improvement - Increased Bearing Area, and Improved Outlet Guide Vane Design in Area of Locking Keys
N-238	-	Forward Compressor Stator Vane Locking Key Improvement - Increased Bearing Area.
N-226	-	Elimination of Ignition Lead Chafing
N-214	-	High Pressure Turbine Forward Shaft, And Seal Attachment Improvement
N-159	-	Alternate Source No. 5 Bearing, Utilizing an Improved Retention System Design

Table 3: Approved LM2500 ECPs

## C.3.11 Gas Generator DIR and Overhaul Report

The Disassembly and Inspection Report (DIR) is the gas generator engineering analysis of the removed parts, assemblies, or components to determine the cause(s) or the symptoms which precipitate removal and of other conditions not meeting acceptance criteria. The analysis shall result in a DIR on each TST gas generator and concurrent parts, assemblies, or selected component items that are identified for induction and processing. At a minimum the DIR reports shall contain the data elements provided in CDRL Data Item No. A002 of this contract. The DIR reports shall be submitted within forty-five (45) days after each TST gas generator induction.

The contractor shall also compile a gas generator overhaul report in the contractor's format for each gas generator. The gas generator overhaul reports shall be submitted to NSWC Code 9333 within sixty (60) days after completion of overhaul. At a minimum the gas generator overhaul reports shall contain the data elements provided in CDRL Data Item No. A003 of this contract.

#### **C.4 Testing Requirements**

## C.4.1 General

After overhaul and assembly, the contractor shall test each US Navy LM2500 TST gas generator assembly in accordance with the testing and the acceptance/rejection criteria cited in the latest revision of the appropriate US Navy LM2500 depot level technical manuals. The gas generators shall be tested to ensure that they will operate properly when installed shipboard. US Navy LM2500 TST gas generators shall be tested in accordance with the testing procedures outlined in Chapter 13 of the US Navy LM2500 technical manual S9234-AB-MMD-030/LM2500 latest revision. The gas generators shall be tested and performance data corrected to the standard US Navy day, ambient temperature of 100 degrees Fahrenheit and ambient pressure of 14.7 psia. The overhauled gas generator performance data, after corrected to a 100 degree Fahrenheit day, shall meet or exceed the criteria stated in the testing section of the US Navy LM2500 depot level technical manual.

The overhauled gas generators would be expected to operate within the following performance guidelines when compared to a nominal new engine baseline as defined in the LM2500 NARF performance reduction program when performance data is corrected to the standard US Navy day, ambient temperature of 100 degrees Fahrenheit and ambient pressure of 14.7 psia, and operated at full power:

a. Does not exceed the "as installed" shipboard T5.4 limit of 1470 degrees Fahrenheit.

- b. Liquid fuel flow by no more than 1% below the baseline.
- c. Compressor efficiency by no more than 1.2% below the baseline.

The contractor shall notify NSWC Code 9333 fourteen (14) days prior to any gas generator testing, in order for a Government representative to be present during the testing. Data from any and all testing will be enclosed in the gas generator overhaul report produced by the contractor.

## C.5 Quality Assurance

#### C.5.1 General

The contractor shall provide a commercial warranty in accordance with CDRL Data Item No. A004, which applies to the overhaul work performed under the contract.

The contractor shall maintain an internal component tracking system within their facility.

The contractor shall minimize the use of subcontractors for overhaul of major components (i.e. compressor assemblies, TMF assemblies, etc.).

The contractor shall allow for the gas generators to have a borescope inspection performed by US Navy personnel at the contractor's facility after the acceptance test is run. The gas generators shall meet or exceed all US Navy standards before acceptance. Any components that are deemed unsatisfactory by the US Navy inspectors shall be replaced before the US Navy accepts the gas generators. The rejection of components and/or the classification of unsatisfactory will be in accordance with the criteria specified in the US Navy technical manuals listed in Section C.2.2 of this document. Components that are deemed unsatisfactory shall be replaced at no additional cost to the US Navy.

At the time of the acceptance test and subsequent borescope inspections, the gas generators shall be cleaned in accordance with procedures outlined in US Navy LM2500 depot level technical manual S9234-AB-MMD-010/LM2500 Chapter 3 or US Navy approved equivalent standard commercial procedures.

## C.6 Packaging and Shipping

The contractor shall be responsible for all shipping required to overhaul the US Navy LM2500 TST gas generators. The contractor shall have the LM2500 TST gas generators shipped from Philadelphia, PA to the contractor's facility. When the overhaul is complete and the contractor is ready to ship the overhauled US Navy LM2500 TST gas generators, the assets shall be stored and shipped in accordance with procedures outlined in the technical manuals cited below. The contractor shall ship the gas generators to NSWCCD-SSES (address provided in Section F). The US Navy gas turbines shall be stored in US Navy provided reusable LM2500 shipping containers. The US Navy requires that if the US Navy LM2500 TST gas generators are in storage before the assets are shipped back to a US Navy facility, the assets shall be stored in a nitrogen pressurized US Navy shipping container, as specified in Section C.3.8 of this document.

The gas generators shall only be shipped in the US Navy provided LM2500 gas generator shipping containers. Shipping shall be in a manner such that the input loads to the containers do not exceed 34.335 meters per second per second upward, 24.525 meters per second per second downward, 14.715 meters per second per second lateral, and 19.62 meters per second per second fore and aft. Shipment via highway or rail, require the utilization of a pneumatic suspension trailer or pneumatic suspension rail car.

The containers shall be inspected in accordance with technical manuals S9234-AA-MMA-000/LM2500 Section 2-169 latest revision, S9234-AB-MMD-030/LM2500 Chapter 14 latest revision. The overhaul of the containers is not specifically part of this contract. If the containers are deemed to be in need of overhaul the contractor shall contact

NSWC Code 9333 upon receipt of the container. It should be noted that these are reusable and repairable containers. At no time shall the LM2500 gas generator shipping containers be disposed of.

In the event that the gas generators are in storage either prior or post overhaul, storage maintenance shall be performed on the gas generators in the shipping containers, to ensure container nitrogen preservation pressure charge and desiccant is not compromised. This maintenance shall be performed on a monthly basis.

#### INSPECTION AND ACCEPTANCE TERMS

Supplies/Services will be inspected/accepted at:

FINAL FINAL
INSPECTION AT ACCEPTANCE AT

0001AA Destination Destination 0001AB Destination Destination

## SHIP TO ADDRESS:

**CLIN** 

Naval Surface Warfare Center, Carderock Division Code 9332, Tom Habib 5101 South 18<sup>th</sup> Street Philadelphia, PA 19112-1403

Tel: 215-897-7287

## C.7 Unforeseen Work

- a. The contractor shall promptly, at the time of the work scope meeting set forth in Section C.3.5, give written notice of the unforeseen work. The unforeseen work includes only that work which is latent or differs materially from what is ordinarily encountered and generally recognized as inhering in work of the character provided for in the contract. Any work which would have been anticipated, given a careful review of the Engine Miscellaneous History and Repair Requirements provided as Attachments (b) through (k) will not be considered unforeseen work.
- b. The Contracting Officer shall investigate the unforeseen work and if conditions do differ and cause an increase or decrease in the contractor's cost of, or time required for, performing any part of the work under this contract, whether or not changed as a result of the unforeseen work, shall negotiate an equitable adjustment and the contract will be modified accordingly.
- c. No request by the contractor for an equitable adjustment to the contract under this clause shall be allowed, unless the contractor has given the written notice required.
- d. No request by the contractor for an equitable adjustment to the contract for unforeseen work shall be allowed if made after final payment under this contract has been made.

## **C.8 Proposal Requirements**

#### **C.8.1 Overhaul Report**

The contractor shall submit, with their technical proposal, one (1) gas generator overhaul report, generated since 2002, for other LM2500 gas generator customers that addresses the contractor's ability to perform overhaul work of the LM2500 in accordance with the minimum work scope requirement identified Section C.3.5.1 through C.3.6 of this specification. Report should include turn around time.

# **C.8.2** Test Cell Operational Report

The contractor shall submit, in their testing proposal, one (1) test cell operational report, generated since 2002, for other marine or industrial LM2500 gas generator customers. Test cell performance data shall be submitted to confirm the requirement for prior experience with the overhaul of the General Electric LM2500 TST gas generator for industrial or marine customers. The report shall be generated by the test facility that is owned by the contractor and shall be the same facility that will be used to test the US Navy gas generator. Testing of the US Navy LM2500 TST gas generator shall not be subcontracted without written approval from NSWC Code 9333.

#### **C.8.3 Test Cell Information**

The contractor shall provide documentation to state whether or not the US Navy LM2500 gas generator will be tested with slave accessories.

#### **C.8.4 Facility Audit**

The US Navy reserves the right to conduct a facility audit on contractors found to be technically acceptable. If an audit is conducted, the following will be viewed by the Government evaluation team: LM2500 TST gas generator special support equipment and tooling, machinery required to perform an overhaul of a LM2500 TST gas generator, inspection of the internal component tracking system, the LM2500 test cell, evaluation and/or verification of the capability of meeting the upper gas generator repair requirement, bonded material evaluation, amount of US Navy approved material in stock storage facility evaluation, and maintenance plan for inspecting and preservation of the US Navy gas generator in storage.

## **C.8.5** Component Tracking System

The contractor shall submit with their facility capacity proposal documentation on their in house internal component tracking system for evaluation.

#### **C.8.6 Accessory Overhaul Report**

The contractor shall submit, with their facility capacity proposal, one (1) accessory overhaul report for each of the LM2500 accessories (main fuel control, starter, power lever angle actuator, lube oil pump, CIT sensor and fuel pump) overhauled by the contractor's facility and generated since 2002, for other LM2500 gas generator customers. These reports shall addresses the contractor's ability to perform LM2500 accessory overhaul work in accordance with the minimum work scope requirement identified Section C.3.5.1 through C.3.6 of this specification.

## **C.8.7 Subcontracting**

The contractor shall submit, with their technical proposal, a list of all subcontractors they plan to utilize during performance of the contract and list which component(s) the subcontractor will be overhauling.

## PROPOSAL PREPARATION REQUIREMENTS

It is requested that contractors prepare their proposals in accordance with the following organization, content and format requirements to assist the Government in making a complete and thorough evaluation of all proposals. Proposals shall be submitted as two separate documents, as follows:

Documents	Original	Copies
Solicitation, Offer and Award Document (SF-33)	1	3
Technical Proposal	1	3

The "originals" shall be clearly identified as the "ORIGINAL", and bear the original signature(s) of the contractor. The "copies" shall be complete and clearly identified as "COPY" or "DUPLICATE".

### (1) SOLICITATION, OFFER AND AWARD DOCUMENTS (SF-33 RFP)

This document, which may be used as part of the contract award document, shall be fully executed and returned as a separate document from the technical proposals. Special attention should be taken to accurately enter the prices required in Section B, complete all Representations and Certifications in Section K and ensure that an authorized person signs the offer in Block 17 of Page 1.

The document SHALL NOT be embellished with any cover or binding. If the contractor makes any qualifications to any provisions in the RFP, all such qualifications shall be listed in a cover letter to the proposal. Qualifications may also be annotated on the Solicitation, Offer and Award document, if such annotation is necessary to clarify the qualifications.

#### (2) TECHNICAL PROPOSAL

The contractor's proposal shall contain a **Technical Proposal** along with the **Solicitation, Offer and Award Document (SF-33-RFP)**. The technical proposal shall not contain any cost/pricing information. The contractor shall submit **four (4)** copies of the **Technical Proposal**. The **Technical Proposal** shall contain sufficient information to enable Government personnel to make a thorough evaluation and arrive at a sound determination as to whether or not the **Technical Proposal** demonstrates the contractor's ability to understand and comply with the solicitation's requirements. Statements which paraphrase the specifications or attest that "standard procedures will be employed", are considered inadequate in demonstrating the contractor's actual capability of meeting the specification requirements. The **Technical Proposal** will be rated by the Government utilizing **Technically Acceptable / Low Cost** standards. As a minimum, the contractor's **Technical Proposal** must clearly provide the following information:

#### **EXECUTIVE SUMMARY**

1. This summary shall delineate the approach taken, profile innovations, and the attendant technology, demonstrating an understanding of the scope of effort required to satisfy the requirements of the contract. An overview of the managerial and organizational approaches shall be included, noting subcontractor relationships where applicable. The contractor shall identify his past experience on Government or commercial overhaul contracts for overhauling efforts of industrial or marine LM2500 gas generators. The contractor shall cite existing contracts (including those within the past one year). The contractor must describe corporate experience that demonstrates the knowledge and capability to perform the tasks in the RFP. The executive summary shall not contain price or cost information. A copy of the contractor's forwarding letter shall be contained in this volume.

## TECHNICAL

- 1. The proposal shall address, as they appear in the solicitation, each requirement (paragraph) of Section C. The proposal shall demonstrate the contractor's ability to comply, referencing any data, test report documentation, etc. (references should indicate page and/or paragraph). Any referenced material shall be included as an attachment to the technical proposal. The following shall also be included in the technical proposal:
  - a. The contractor shall provide information to explain their prior experience in overhauling LM2500 gas generators for industrial or marine applications.
  - b. The contractor shall provide information to explain their facilities and capabilities to clean, inspect, and repair gas generator components in accordance with US Navy LM2500 depot level technical manual S9234-AB-MMD-010.
  - c. The contractor shall provide information to explain their ability to overhaul gas generator accessories in accordance with US Navy LM2500 depot level technical manual S9234-AB-MMD-010.

- d. The contractor shall provide, as an attachment to their technical proposal, the commercial warranty offered by the contractor as required in Section C.5.1 of the Repair Description.
- e. The contractor shall provide, as an attachment to their technical proposal, information concerning their prior efficiency in overhauling LM2500 gas generators for industrial or marine applications.
- f. The contractor shall provide, as an attachment to their technical proposal, the Overhaul Report as detailed below. The report shall be in the contractor's format. This report shall accompany the proposal submittal.
- g. The contractor shall provide, as an attachment to their technical proposal, a list of all subcontractors they plan to utilize during performance of the contract and list which component(s) the subcontractors will be overhauling.
- h. The contractor shall complete the LM2500 Commercial Overhaul Facility Capability Checklist, Attachment (a), which lists tooling and technical capabilities performed by the contractor or its subcontractors.

#### OVERHAUL REPORT

The contractor shall submit, with their technical proposal, one (1) gas generator overhaul report, generated since 2002, for other LM2500 gas generator customers that addresses the contractor's ability to perform overhaul work of the LM2500 in accordance with the minimum work scope requirement identified in Section C.3.5.1 through C.3.6 of this specification. Report should include turn around time.

## **TESTING**

- 1. Contractors shall submit, in their testing proposal, one (1) test cell operational report, generated since 2002, for other marine or industrial LM2500 gas generator customers. Test cell performance data shall be submitted to confirm the requirement for prior experience with the overhaul of the General Electric LM2500 gas generator for industrial or marine customers. The report shall be generated by the test facility that is owned by the contractor and shall be the same facility that will be used to test the US Navy gas generator. Testing of the US Navy LM2500 TST gas generator shall not be subcontracted without written approval from NSWC Code 9333.
- 2. Contractors shall submit one (1) Accessory Overhaul Report for each of the LM2500 accessories (main fuel control, starter, power lever angle actuator, lube oil pump, CIT sensor and fuel pump) as required in Section C.8.6 of the Repair Description.
- Contractors shall provide documentation to state whether or not the US Navy LM2500 gas generator will be tested with slave accessories.
- 4. Contractors shall submit detailed information to explain and demonstrate their familiarity with testing and correlating the acquired testing data to the US Navy's 100 degree Fahrenheit and 14.7 psia ambient equivalent.
- 5. Contractors shall provide the part number and cold exit area measurement (inches squared) for the slave exhaust test nozzle to be used during gas generator acceptance testing.

#### FACILITY CAPACITY

- 1. The contractor shall detail in their proposal how they can enhance the value of their proposed overhaul work on the US Navy LM2500 TST gas generator in each of the following areas:
  - a. Internal Part/Component tracking system(s) requirement of Section C.5.1 of the Repair Description: The contractor shall provide information concerning the Internal Part/Component tracking system(s) they are proposing to utilize during performance of the contract.
  - b. Maintenance Plan for inspecting and recharging of US Navy LM2500 gas generator shipping/storage containers as required by Sections C.3.8 and C.6 of the Repair Description: The contractor shall provide information concerning the Maintenance Plan for inspecting and recharging US Navy LM2500 gas generator

shipping/storage containers they are proposing to utilize during performance of the contract.

- c. The contractor shall submit, with their facility capacity proposal, one (1) accessory overhaul report for each of the LM2500 accessories (main fuel control, starter, power lever angle actuator, lube oil pump, CIT sensor and fuel pump) overhauled by the contractors facility and generated since 2002, for other LM2500 gas generator customers. These reports shall address the contractor's ability to perform LM2500 accessory overhaul work in accordance with the minimum work scope requirement identified in Section C.3.5.1 through C.3.6 of this specification.
- 2. Facility Audit: The Government reserves the right to conduct a facility audit on all offerors. If an audit is conducted, the following will be reviewed by the Government Evaluation Team in order to evaluate the facility capability of supporting the work required under Section C of this solicitation:
  - a. Capacity Evaluation.
  - b. Storage Evaluation.
  - c. Bonded Material Evaluation.
  - d. Amount of US Navy approved consumable material in stock.
  - e. LM2500 TST gas generator special support equipment and tooling.
  - f. Machinery required to perform an LM2500 TST gas generator overhaul.
  - g. Tooling required to perform an LM2500 TST gas generator overhaul.
  - h. LM2500 Test Cell.
  - i. Internal Part/Component tracking system within the facility.
  - j. Maintenance Plan for inspecting and recharging US Navy containers.
  - k. Maintenance Plan for inspecting and preservation of the US Navy gas generators in storage.
  - 1. Evaluation and/or verification of the capability of meeting the upper gas generator repair requirement.
- 3. The contractor shall provide in their proposal their facility's capacity to meet the US Navy five (5) engine induction schedule identified in Section C.3.9 of this specification. The contractor shall provide an induction plan based on current workload to meet the every two (2) week engine induction requirement.

## PAST PERFORMANCE

- 1. The contractor shall detail in their proposal the following:
  - a. Past Performance: The contractor shall provide detailed information on their past performance on the overhaul and delivery of the LM2500 gas generator. The contractor shall describe its past performance on contracts for the overhaul and delivery of this item which it has held in the last one (1) year that are of similar scope, magnitude and complexity to that which is detailed in this solicitation. The contractor shall provide the following information regarding its past performance:
    - 1) Contract Number(s).
    - 2) Detailed description of the work performed.
    - 3) Names of subcontractor(s) used, if any, and a description of the extent of work performed by the subcontractor(s).
    - 4) Turn around time.

**NOTE:** The Serial Numbers of the gas generators are GGA -075, GGA -096, GGA -271, GGA -811 and GGA -820. The gas generator Engine Miscellaneous History and Repair Requirements are furnished as Attachments (b) through (k) to assist contractors in the preparation of a more accurate proposal. A complete engine teardown and inspection of the engines is still required to validate logbook information.

(end of clause)

#### **EVALUATION OF PROPOSALS**

General. Careful, full and impartial consideration will be given to all offers received pursuant to this solicitation, and the evaluation will be applied in a similar manner. Factors against which offers will be evaluated (e.g., Technical Capability and Cost) are set forth below and parallel the solicitation response called for elsewhere herein.

Technical Overhaul Report Testing Facility Capacity Past Performance

Initial Evaluation of Offers. All offers received will be evaluated by a team of Government personnel.

- (c) Evaluation Approach. The following evaluation approach will be used:
- (1) Technical Proposal. All evaluation factors will be reviewed and each proposal will be determined to be technically acceptable or unacceptable.
  - (2) Cost or Price Proposal.
- (i) Cost or price will be evaluated for magnitude and realis m. The determination of the magnitude of the cost proposal will be based on the total of all proposed costs.
- (ii) Proposals which are unrealistic in terms of technical or schedule commitments or unrealistically high or low in cost may be deemed reflective of an inherent lack of technical competence, or indicative of a failure to comprehend the complexity and risks of the proposed work, and may be grounds for rejection of the proposal. If the proposed contract requires the delivery of data, the quality of organization and writing reflected in the proposal will be considered to be an indication of the quality of organization and writing which would be prevalent in the proposed deliverable data. Subjective judgment on the part of the Government evaluators is implicit in the entire process. Throughout the evaluation, the Government will consider "correction potential" when a deficiency is identified.
- (d) Competitive Acquisition Instructions.
- (1) If the provision FAR 52.215-1, "Instructions To Offerors--Competitive Acquisition" is included in this solicitation, the Government intends to evaluate proposals and award a contract without discussions with offerors (except clarifications as described in FAR 15.306(a)). Therefore, the offeror's initial proposal should contain the offeror's best terms from a cost or price and technical standpoint. However, the Government reserves the right to conduct discussions if the Contracting Officer later determines them to be necessary.
- (2) If the provision at FAR 52.215-1 is used with its Alternate I, the Government intends to evaluate proposals and award a contract after conducting with offerors whose proposals have been determined to be in the competitive range.
- (3) In either of the above two situations, if the Contracting Officer determines that the number of proposals that would otherwise be in the competitive range exceeds the number at which an efficient competition can be conducted, the Contracting Officer may limit the number of proposals in the competitive range to the greatest number that will permit an efficient competition among the most highly rated proposals.
- (e) Discussion/Final Proposal Revisions. The Contracting Officer shall indicate to, or discuss with, each offeror still being considered for award, significant weaknesses, deficiencies, and other aspects of its proposal (such as cost, price, technical approach, past performance, and terms and conditions) that could, in the opinion of the Contracting

Officer, be altered or explained to enhance materially the proposal's potential for award. The scope and extent of discussions are a matter of Contracting Officer judgment. At the conclusion of discussions, each offeror still in the competitive range shall be given an opportunity to submit a final proposal revision. A final cut-off date for receipt of final proposal revisions will be established by the Contracting Officer.

(f) Basis for Contract Award. Award will be made to the offeror who submits the lowest priced technically acceptable proposal.

## **ATTACHMENTS**

- (1) LM2500 Commercial Overhaul Facility Capability Checklist
- (2) GGA-075 LM2500 Engine Miscellaneous History
- (3) GGA-096 LM2500 Engine Miscellaneous History
- (4) GGA-271 LM2500 Engine Miscellaneous History
- (5) GGA-811 LM2500 Engine Miscellaneous History
- (6) GGA-820 LM2500 Engine Miscellaneous History
- (7) GGA-075 Repair Requirements
- (8) GGA-096 Repair Requirements
- (9) GGA-271 Repair Requirements
- (10) GGA-811 Repair Requirements
- (11) GGA-820 Repair Requirements
- (12) Contract Data Requirements List (CDRL), DD Form 1423's, A001 through A004, applicable to all five LM2500 Gas Generators